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EXAMINER	
STERRETT, JONATHAN G	
ART UNIT	PAPER NUMBER
3623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/061,008	BURRUSS ET AL.	
	Examiner	Art Unit	
	Jonathan G. Sterrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the After-final amendment of December 18, 2006, prosecution is hereby reopened. This action is Non-Final. Currently **Claims 1-20** are pending. This action is in response to the amendment filed December 18, 2006.

Response to Amendments

2. The 35 USC 112 rejections are withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 17 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

4. The applicant argues with respect to Claims 13 and 14 on page 14 that Smith does not meet the claim limitations of "computing a measure comparing the aggregate channel weeks of supply estimate and the aggregate weeks of supply target for the channel."

The examiner respectfully disagrees.

The examiner notes that the terms "aggregate channel weeks of supply" as applied to inventory are nonfunctional descriptive material. The terms do not further distinguish the claim in term of patentability because the substitution of other terms describing "inventory" would not change the function of the claim. For example, if one substituted "finished goods" or "WIP" in the place of the cited terms, the operation of the

claim, that is, computing a measure comparing an estimate with a target, would be the same. Smith does teach computing a measure that compares a channel estimate with a channel target.

5. The examiner notes that Official Notice was taken on page 8, Claim 8 with respect to adding impact values with demand values. Since this was not traversed, it is taken to be admitted prior art.

6. The examiner notes that Official Notice was taken on page 9, Claim 9 with respect to promotional elements having an impact on a baseline forecast. Since this was not traversed, it is taken to be admitted prior art.

7. The examiner notes that Official Notice was taken on page 10, Claim 10 with respect to normalizing data. Since this was not traversed, it is taken to be admitted prior art.

8. The examiner notes that Official Notice was taken on page 11, Claim 11 with respect to channel inventory having an impact on demand. Since this was not traversed, it is taken to be admitted prior art.

9. The examiner notes that Official Notice was taken on page 12, Claim 12 with respect to estimating channel inventory based on an estimate of total or aggregate weeks of supply. Since this was not traversed, it is taken to be admitted prior art.

10. The examiner notes that Official Notice was taken on page 13, Claim 15 with respect to adjusting a forecast using error values. Since this was not traversed, it is taken to be admitted prior art.

11. The examiner notes that Official Notice was taken on page 13, Claim 16 with respect to using exponentially-weighted moving average function to smooth values. Since this was not traversed, it is taken to be admitted prior art.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. **Claim 1-20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Under the statutory requirement of 35 U.S.C. § 101, a claimed invention must produce a useful, concrete, and tangible result. For a claim to be useful, it must yield a result that is specific, substantial, and credible (MPEP § 2107). A concrete result is one that is substantially repeatable, i.e., it produces substantially the same result over and

over again (*In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000)*). In order to be tangible, a claimed invention must set forth a practical application that generates a real-world result, i.e., the claim must be more than a mere abstraction (*Benson, 409 U.S. at 71-72, 175 USPQ at 676-77*). Additionally, a claim may not preempt abstract ideas, laws of nature or natural phenomena nor may a claim preempt every "substantial practical application" of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves (*Gottschalk v. Benson, 409 U.S. 63, 71-72 (1972)*). (Please refer to the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" for further explanation of the statutory requirement of 35 U.S.C. § 101.)

Regarding independent **Claims 1, 17 and 18**, the claims cite steps for generating a forecast. The claims provide for a tangible result and a result that has utility, however the steps do not provide for a concrete result.

These steps would provide an output (i.e. a forecast) that is substantially different, depending on the individual that is utilizing the claim steps.

For example, the specification on page 7 line 1-3 notes that "judgment and experience" is utilized by forecasters in generating a final forecast.

Page 9 line 8-18 notes that various graphical interfaces are used by the user to modify features of the initial product demand template – See also Figure 4B. The specification tells a user how to adjust these parameters graphically, but does not tell a

user how much to do so – the input is dependent upon the user's experience. This input also affects the final demand forecast.

Page 11 line 28- page 12 line 3 describe that a user may modify a generic drop impact profile according to a peak value, final value and curvature value. It does not explain how these should be modified for a drop impact profile. This input is dependent upon the user's experience. This input also affects the final demand forecast.

Thus, one individual using the claimed invention could realize a substantially different outcome than another individual, even assuming that they were both forecasting the same product. Because the claims may be used as such to provide different outcomes, the invention as claimed does not provide for a result that is substantially repeatable, and therefore does not provide a **concrete** result.

Because **Claims 1, 17 and 18** do not provide for a concrete result, these claims are rejected under 35 USC 101. **Claims 2-16, 19 and 20** depend on **Claims 1, 17 and 18**, they are also not statutory under 35 USC 101 at least for the reasons given above.

Examiner comment: Regarding the concrete (i.e. substantially repeatable) aspect of the 101 rejection above, the examiner provides the following example. Let's say two users of the invention wanted to provide a forecast using the claimed invention. We'll call the first user "Fred" and the second user, we'll call "Judy". The claims do not tell Fred how to interact with the various templates and profiles in order to produce a forecast. In fact, as stated by the claim, Fred will have to determine, based on his own experience how to modify the template parameter values to generate a forecast.

Furthermore, to generate an event-adjusted demand forecast, Fred is going to have to determine, again based on his own experience, which impact profiles to use to generate this event-adjusted forecast.

If the second user, "Judy" attempts to utilize the invention for also generating a forecast, then she will have to repeat the learning and experimentation process that Fred went through, even and especially if Judy is dealing with producing a forecast for the same product that Fred is forecasting. Since the modifying of the template parameter values and selection of impact profiles is based upon the individual's experience, each user will provide a substantially different result based on their knowledge and experimentation, even and especially if they are forecasting the same product. Because the repeatability of the results depends on the users and not what is specified by the claims, the invention is not substantially repeatable and therefore is not patentable under the "concrete" requirements of USC 101. The specification notes that the utilization of the invention is dependent on the "judgment and experience" of the forecasters (page 7 line 1-3).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 USC. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. **Claims 1-12 and 15-20** are rejected under 35 USC. 103(a) as being unpatentable over **Cox**, William E., Jr; "Product Life Cycles as Marketing Models", (Oct., 1967), The Journal of Business, Vol. 40, No. 4. pp. 375-384. in view of **Suits**, Daniel B, et.al. "Spline Functions Fitted by Standard Regression Methods", Feb 1978, The Review of Economics and Statistics, Vol. 60, No. 1, pp.132-139.; and further in view of **Nijs**, Vincent R; et.al. "The Category-Demand Effects of Price Promotions", Winter 2001, 20, 1, ABI/INFORM Global, p.1.

Regarding **Claim 1**, Cox teaches the need to develop a quantitative model of the product life cycle model (page 376 column 1 para 2), where the product life cycle model is comprised of four stages: introduction, growth, maturity and decline (page 375 column 1 para 2). Cox further teaches that there are different approaches to modeling and forecasting product demand as per:

obtaining a product life cycle template comprising a growth phase, a maturity phase, and a decline phase of a template demand profile;

Page 382 Figure 2, the different types of product life cycle templates are comprised of parameter values; these parameter values control a respective aspect of a growth phase of a product life cycle quantitative model (i.e. a demand profile).

producing an initial demand forecast comprising demand values for the product over a product life cycle, wherein the producing comprises modifying the product life cycle template

Page 384 column 1 para 3, total sales may be forecast over a total product life cycle based on a point estimate. Using the appropriate model for the life cycle curve would involve inputting a parameter (i.e. the maximum sales point) into the appropriate mathematical model to

determining an impact to a life cycle curve based on one or more events that impact the initial demand forecast during a respective period of the product life cycle; and

page 383 column 2 para 2, the promotional efforts (i.e. impact profiles) result in increased sales in the product where the values (i.e. increase in promotional expenditures) occur at the end of the Maturity phase. This increase in sales is determined by a transformation of the product life cycle curve from one form to another.

generating an event-adjusted demand forecast for the product,.

Page 383 column 2 para 3, the transformation of a second degree polynomial into a third degree polynomial is a convolution of the impact of the promotional efforts into the baseline demand based on the product life cycle. Note that the promotional efforts are time phased and occur "when a product reaches the end of the third, or Maturity, stage of the product".

Cox does not teach:

where the template parameters each individually controlling a respective aspect of a respective one of the segments of a curvilinear function;;

and where the determining an impact on the demand forecast is determined by one or more impact profiles each of which comprises one or more impact values, wherein each of the impact values specifies a respective impact of a respective set of one or more events on the product forecast.

wherein the generating comprises convolving the impact values of the respective periods of the one or more impact profiles with the demand values of corresponding periods of the initial demand forecast.

Suits teaches:

where the template parameters each individually controlling a respective aspect of a respective one of the segments of a curvilinear function;

specifically, that piece-wise polynomial regression provides for estimation of a curvilinear function where different segments of the curve are provided by template parameter values, i.e. different coefficients of the polynomial function that control a respective aspect of the curve. (see Figure 2 on page 133 and the various polynomial coefficients (i.e. parameter values) of equation 4 on page 134, each of which control various aspects of the polynomial curve.)

Suits teaches that using piecewise polynomial regression allows for specifying a curve where having a discontinuous region between adjacent curves (i.e. a kink or an abrupt change in the slope) would make analysis difficult at those transition points (see lines 4-8 on column 2 of page 133).

Cox teaches that there is a need for the development of quantitative models of the product life cycle curve so that better analysis of the product life cycle can be made.

Therefore, one of ordinary skill in the art at the time of the invention would modify the teachings of Cox, regarding identifying phases of the product life cycle curve and modeling product life cycle curves using mathematical models, to include the step of using a piecewise polynomial approach, as taught by Suits, because it would provide a model that provides for continuous modeling through the phase boundaries as specified by the product life cycle curve and thus provide a function use in economic applications (see page 133 column 2 line 4-7, discontinuity at phase boundaries "that would becloud analysis").

Suits addressing using his approach for economic applications but not specifically for use in determining forecasts.

Nijs teaches:

and where the determining an impact on the demand forecast is determined by one or more impact profiles each of which comprises one or more impact values, wherein each of the impact values specifies a respective impact of a respective set of one or more events on the product forecast.

Page 5 para 3.1 line 7-10 a three equation model is used to model the effect of various variables (i.e. impact profiles – including product features, advertising, price). Each of these variables is used to specify an impact on events on the product forecast. See Figure 2 on page 6 for a graph of the price promotion impact on sales. This impact is modeled as an "impulse" function where the impact is modeled as having a response function in the long run.

wherein the generating comprises convolving the impact values of the respective periods of the one or more impact profiles with the demand values of corresponding periods of the initial demand forecast.

Page 6 column 1 line 14-18, Nijs teaches generating a forecast where the impact of the various endogenous and exogenous variables of his equation are used to generate a long term (i.e. a net effect) of the price promotion's impact on sales – thus a forecast. See also page 6 column 1 line 25-30, the application of Nijs price promotion model is modeled after an impulse response function upon category sales, thus it is an additive impact to the sales that already exist.

Nijs teaches that his approach helps determine the impact of price promotions (i.e. an impact profile) upon category demand (i.e. a forecast). (page 1 column 1 line 1-5).

One of ordinary skill in the art at the time of the invention would further modify the teachings of Cox and Suits, regarding using curvilinear regression to model life cycle

curves, to include the step of generating a forecast using a price promotion function modeled after an impulse response function, as taught by Nijs, because it would provide for a more accurate forecast that accounts for the impact of price promotions on demand.

Cox, Suits and Nijs all address the application of mathematical equations for used in economic applications, thus they are all analogous art.

Regarding **Claim 2**, Cox teaches:

wherein the producing comprises deriving the demand values of the initial demand forecast based on a scaling of the template parameter values of the product life cycle template based on an estimate of the mature demand for the product.

Page 384 column 1 para 3, sales can be projected (i.e. deriving demand values) based on scaling of the equation's values (i.e. template parameter values) based on an estimate of the maximum sales level of the product estimated sales level.

Regarding **Claim 3**, Cox teaches:

wherein the producing comprises deriving ones of the demand values of the initial demand forecast based on estimates of one or more template parameters representing a length of one or more of the phases of the template demand profile.

Page 384 column 1 para 2, Cox teaches the use of deriving a demand curve based on applying a sinusoidal function to approximate the product life cycle curve, i.e. the parameter period represents the length of the phases of the profile.

Regarding **Claim 4**, Cox teaches:

wherein the producing comprises deriving ones of the demand values of the initial demand forecast based on length estimates for the maturity and decline phases of the template demand profile.

Page 384 column 1 para 2, Cox teaches the use of deriving a demand curve based on applying a sinusoidal function to approximate the product life cycle curve. Since the sinusoidal curve provides for deriving the demand values for the maturity and decline values (i.e. back side of sine curve)

Regarding **Claim 5**, Cox teaches:

wherein the producing comprises deriving ones of the demand values of the initial demand forecast based on an estimate of stock-in demand relative to an estimate of mature demand.

Figure 1 (4) commercial death (i.e) the end of the maturity phase is based on an estimate of 10 or 20 % of catalog sales (i.e. stock-in demand) relative to (3), the beginning of the mature demand.

Regarding **Claim 6**, Cox teaches:

wherein the generating comprises multiplying the impact values of the respective periods of one or more of the impact profiles with the demand values of corresponding periods of the initial demand forecast.

As discussed above in generating the forecast, Page 383 column 2 para 3, Cox teaches the impact that promotions have on sales.

Page 384 column 1 para 2, Cox teaches the applicability of Fourier transforms into decomposing a demand function into its elements. Since the Fourier transforms translate between the convolution and multiplication of functions, this would include determining the product of a function with its Fourier transform to determine a sales forecast.

Regarding **Claim 7**, Cox teaches:

wherein the determining comprises determining at least one of a seasonality impact profile, a price drop impact profile, a promotions impact profile, a competitive product introduction impact profile, and an economic conditions impact profile, and the generating comprises multiplying the impact values of the respective periods of the at least one determined impact profile with the demand values of corresponding periods of the initial demand forecast.

Page 383 column 2 para 3, Price teaches the impact of a promotional curve on extending the maturity and decline phases of a product and (page 384 column 1 para 2) Price teaches Fourier transforms being used to understand how different curves (i.e. various impact profiles) impact the underlying product life cycle curve (i.e. Cox teaches

using Fourier analysis). Multiplying Fourier transforms together result in the function curve that is decomposed and expressed in terms of Fourier transforms.

Regarding **Claim 8**, (Page 383 column 2 para 3), Cox teaches the combination of natural (i.e. life cycle curve) effects and promotional effects to understand the total sales profile. Cox further teaches the application of Fourier transforms to understand how different curves can be added to determine what the combined product life cycle (composed of all functions) would look like.

While Cox does not teach adding impact values with the demand values to determine the total demand per se, it is old and well known in the art to do so. The adding of the two values provides for a total determination of demand based on the natural demand (i.e. or base level demand taught by Cox) and using an incremental demand (i.e. or the additional 'promotional' demand as taught by Cox).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the combined teachings of Cox, Suits and Nijs, regarding different aspects of demand, including natural and promotional and the additional teaching of Cox regarding the use of Fourier transforms, to determine total demand by adding the impact values to the demand values, because it would provide a way to understand total demand.

Regarding **Claim 9**, Cox teaches:

wherein the determining comprises determining at least one of a deals impact profile, a constrained product introduction impact profile, a left-to-sell impact profile and an impact profile corresponding to a bundling event, and the generating comprises adding the impact values of the respective periods of the at least one determined impact profile with the demand values of corresponding periods of the initial demand forecast.

Page 383 column 2 para 3, Cox teaches the combination of a natural response (i.e. a baseline demand forecast) with a promotional period. Cox further teaches the separation of different effects upon sales (using Fourier transforms as discussed above).

While Cox does not teach adding an impact profile to an initial demand forecast, it is known in the art that various promotional elements have an impact on a baseline forecast.

It would have been therefore obvious to one of ordinary skill in the art at the time of the invention to add a profile to an initial demand forecast because it would determine what the total forecast would be based on the impact of that particular item.

Regarding **Claim 10**, Cox teaches using a normalization scheme in concert with past (i.e. historical data) to determine the boundaries of the product life cycle (i.e. for

maturity and decline, Cox teaches using the 10 percent and 20 percent rule). While Cox does not teach using normalization rule for the introduction and growth boundaries (i.e. template parameter values), it is old and well known in the art to normalize data to obtain useful relationships using the data set as a whole.

Cox teaches that the life cycle model provides for quantitatively understanding the product life cycle curve and that using the 10 or the 20 percent rule (which is based on historical data) provides a useful way to determine the profile values where the lifecycle curve transitions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Cox, Suits and Nijs, regarding developing normalized parameter values for the maturity and decline phase, to develop normalized parameter values for the introduction and growth phases, because it would provide a useful way to determine what phases of the life cycle the product is in.

Regarding **Claim 11**, Cox teaches the limitations above regarding demand forecasting using product life cycle profiles. Cox also teaches that additional effects on demand may be added to a baseline lifecycle curve to develop a combined forecast that accounts for the baseline demand and additional demand elements.

Cox does not teach using a measure of channel inventory to generate an inventory-adjusted demand forecast as per:

generating an inventory- adjusted demand forecast based upon a convolution of the event-adjusted demand forecast with a measure of channel inventory and sell-through impact on product demand.

However, Official Notice is taken that it is old and well known in the art for channel inventory to have an impact on demand, since availability of a product in certain sales channels is known to help drive sales. Accounting for channel inventory in a sales forecast better accounts for the impact of inventory level on sales.

It would have been obvious to one of ordinary skill in the art to modify the combined teachings of Cox, Suits and Nijs to include the step of the adjusting demand based on channel inventory because it would provide a better, more improved forecast by taking into account the known effect that channel sales has on inventory.

Regarding **Claim 12**, Cox does not teach:

computing the channel inventory impact measure based upon an estimate of aggregate channel weeks of supply.

Official Notice is taken that it is old and well known in the art of market forecasting to estimate channel inventory based on an estimate of total or aggregate weeks of supply. Weeks of supply is a known metric that accurately accounts for a ratio of demand to actual inventory to calculate the time remaining for the inventory to meet demand (i.e. the relationship of inventory to sales).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Cox, Suits and Nijs regarding using inventory channel supply to estimate an impact on demand to computing the channel inventory using an aggregate weeks of supply measure, because it would provide an accurate way to estimate the input of inventory on demand.

Regarding **Claim 15**, Cox teaches adjusting a demand forecast based on a convolution of external effects to a demand forecast, however Cox does not teach:

generating a demand- adjusted demand forecast based upon a convolution of the inventory adjusted demand forecast with a measure of forecast error computed from a measure of actual demand and a measure of demand predicted by the inventory-adjusted demand forecast.

The examiner takes Official Notice that adjusting a forecast using error values is old and well known in the art. This technique provides for adjusting a forecast to be more accurate once actual data is available.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the modify the combined teachings of Cox, Suits and Nijs regarding estimating forecast demand, to include the step of adjusting the demand using error values, because it would provide a way to make the forecast more accurate using available sales data.

Regarding **Claim 16**, Cox does not teach:

smoothing the measure of forecast error in accordance with an exponentially-weighted moving average function.

Official Notice is taken that it is old and well known in the art to use an exponentially-weighted moving average function to smooth values. Smoothing is performing to more clearly show trends in the data because noise and outliers are removed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Cox, Suits and Nijs regarding estimating forecast demand, to include the step of adjusting the demand using error values and smoothing the error values using an exponentially-weighted moving average function, because it would provide an effective way to more clearly show trends in the data by removing noise and outliers from the error values.

Claims 17-20 recite limitations similar to those addressed by the rejection of **Claims 1-12, 15, 16** above, and are therefore rejected under the same rationale.

16. **Claims 13, 14** are rejected under 35 USC. 103(a) as being unpatentable over **Cox** in view of **Suits**, in view of **Nijs** and further in view of **Smith**. Stephen A **Smith**; Dale D Achabal; "Clearance pricing and inventory policies for retail chains", Management Science, Linthicum: Mar 1998.Vol.44, Iss. 3; pg. 285, 16 pgs.

Regarding **Claim 13**, Cox teaches that inventory has an impact on demand but does not teach:

wherein computing the channel inventory impact measure comprises computing a measure comparing the aggregate channel weeks of supply estimate and an estimate of an aggregate weeks of supply target for the channel.

Smith teaches:

wherein computing the channel inventory impact measure comprises computing a measure comparing the aggregate channel weeks of supply estimate and an estimate of an aggregate weeks of supply target for the channel.

Page 288 column 2 para 3, Smith teaches that inventory has an impact on sales via a function where sales is dependent on inventory. Smith teaches that inventory only has an impact on sales when inventory exceeds a threshold. Smith's value f_o defines

this threshold. Smith teaches comparing the inventory (i.e. aggregate channel weeks of supply) and an estimate of the inventory target (i.e. aggregate channel weeks of supply target) enables inventory to be adjusted so that it's effect on sales is optimized (see also page 293 equation 26 in column 1).

The examiner notes that the terms "aggregate channel weeks of supply" as applied to inventory are nonfunctional descriptive material. The terms do not further distinguish the claim in term of patentability because the substitution of other terms describing "inventory" would not change the function of the claim. For example, if one substituted "finished goods" or "WIP" in the place of the cited terms, the operation of the claim, that is, computing a measure comparing an estimate with a target, would be the same.

Smith, Cox, Suits and Nijs all address issues related to apply mathematical models for economic modeling, thus they are all analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Cox, Suits and Nijs regarding using estimating product sales using various profile impacts, to include the step of computing a demand impact based on a comparison of estimated and targeted channel inventory, because it would provide an accurate way to estimate the impact of inventory on demand while optimizing the inventory level.

Regarding **Claim 14**, Cox does not teach:

wherein computing the channel inventory impact measure further comprises adjusting the comparison measure based upon an estimate of channel demand sensitivity to actual inventory levels relative to target inventory levels.

Smith teaches:

wherein computing the channel inventory impact measure further comprises adjusting the comparison measure based upon an estimate of channel demand sensitivity to actual inventory levels relative to target inventory levels.

Page 293 column 1 para 3, Equation 26 adjusts the inventory comparison measure using a sensitivity factor to inventory (Greek letter mu).

Smith teaches comparing the inventory (i.e. aggregate channel weeks of supply) and an estimate of the inventory target (i.e. aggregate channel weeks of supply target) enables inventory to be adjusted so that it's effect on sales is optimized (see also page 293 equation 26 in column 1).

Smith, Cox, Suits and Nijs all address issues related to apply mathematical models for economic modeling, thus they are all analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Cox, Suits and Nijs regarding using estimating product sales using various profile impacts, to include the step of computing a demand impact based on a comparison of estimated and targeted channel inventory and adjusting the comparison using a sensitivity factor, because it would provide an accurate way to estimate the impact of inventory on demand while optimizing the inventory level.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS

JGS 1-15-2007

Beth Van Doren
AU 3623
Patent Examiner